Enabling Security Transformation

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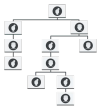
Google Cloud

Five considerations for your transformation

What a digital transformation means for security and risk functions

Understanding the key roles and responsibilities



Security organisation and operational models

Antipatterns and other things to watch out for

Security culture

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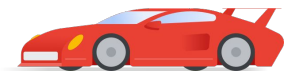
The Impact of Digital Transformation

Digital transformation drivers and outcomes



Speed of IT Delivery

The opportunity to enable development teams to deliver IT at pace and innovate quickly. The evolution of application security.

Infrastructure as Code

Dynamic management of infrastructure. The opportunity to bake software-grade control into infrastructure and policy management

Perimeter is Challenged

A hard outer shell doesn't help in the way that it used to. AuthN, AuthZ and configuration management / verification are key.

Continuous Assurance of Controls for 'Security in the Cloud'

Clarity of Shared Responsibilities and Oversight of 'Security of the Cloud'

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Roles and Responsibilities

Key roles and responsibilities

Policy & Risk Management	Assesses the policy and risk frameworks for suitability with cloud security models
Security Architecture & Design	Defines the approach to ‘security in the cloud’
Security Testing	Performs security-focused testing pre-release
Security Operations	Detects and responds to events, incidents, and threat intelligence
Security Assurance	Verifies that architectures are being adhered to and that controls are operational
Security Engineering	Develops commonly used security toolkits, frameworks and libraries
Infrastructure Engineering	Engineers and operates the cloud infrastructure and supporting services
Application Development	Develops applications that are deployed in the cloud infrastructure

How the roles evolve

Policy & Risk Management	Refactors policies and standards to ensure focus on the right controls
Security Architecture & Design	Enables more nimble use of cloud with blueprints that incorporate guardrails
Security Testing	Moves closer to the development team, tighter integration with SDLC
Security Operations	Extends monitoring to the cloud, uses the cloud to monitor
Security Assurance	Becomes configuration and data-centric; focuses on ‘continuous control monitoring’
Security Engineering	Develops cloud native security toolkits, and defines security policy in code
Infrastructure Engineering	Adopts software development methodologies to manage infrastructure
Application Development	Moves from waterfall to agile and automated software delivery

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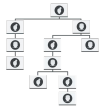
Operating Models



Model 1: Centralised Security

Central Security Function

- Policy & Risk Management
- Security Architecture & Design
- Security Testing
- Security Operations
- Security Assurance
- Security Engineering

Design Reviews

Change Approvals

Security Testing

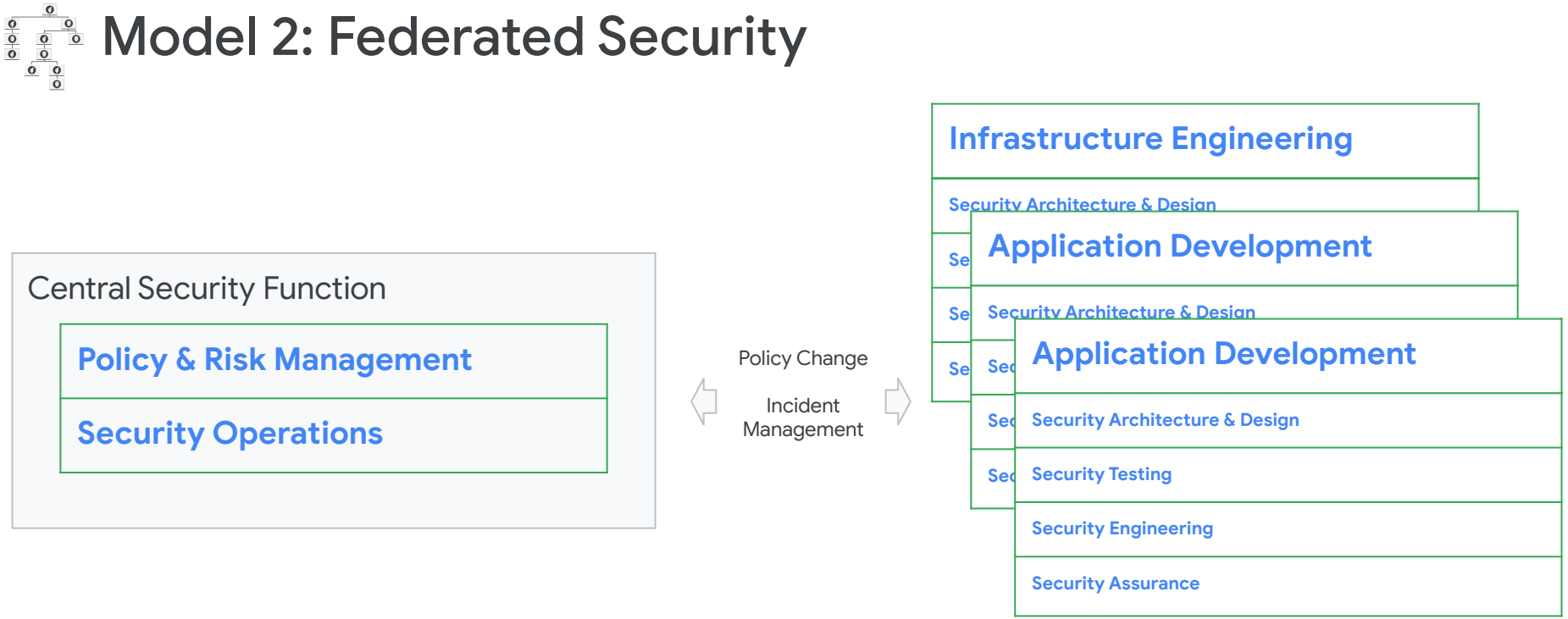
Assurance

- Infrastructure Engineering
- Application Development
- Application Development

Pros: consistency, control, cost efficiency for smaller organisations

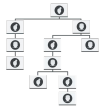
Cons: impedes speed of IT delivery, absolution of security responsibilities

Model 2: Federated Security



Pros: security tightly integrated with SDLC, speed and agility, “just enough” security

Cons: lack of independent assurance, bespoke “roll your own” security solutions



Model 3: Hybrid Security

Central Security Function

- Policy & Risk Management
- Security Architecture & Design
- Security Testing
- Security Operations
- Security Assurance
- Security Engineering

Security is organised and operated according to the need of the IT team, and the security complexity of their product

Infrastructure Engineering

- Security Coordinator (dedicated or assigned role)

Application Development

- Security Coordinator (dedicated or assigned role)

Application Development

- Security Architecture & Design
- Security Testing
- Security Engineering

Pros: common methods & tooling, complex functions get the right support, independent assurance

Cons: requires good communication and collaboration to maintain common vision

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Antipatterns!

Cloud Security Organisational Antipatterns

1. Seeking to use ‘on-premise’ models for security controls in the cloud (example: using virtual appliances for security solutions rather than cloud-native approaches).

2. Assuming that existing control *implementations* are effective (or even necessary) in the cloud. Consider reviewing the control *objectives* you have first.

3. Assuming that existing security administration and change processes will work for the cloud (particularly centralised processes). They could hamper cloud-enabled teams, who may in turn find workarounds.

4. Relying on historical approaches to assuring compliance with policies and standards. Adopt a data-driven approach to achieve the scale and velocity needed for continuous controls monitoring.

Culture

Attributes of a Healthy Security Culture

1. Culture of Security by Default. Security is an assumed part of all stages of IT.
2. Culture of Review. Open, transparent, constructive peer reviews are the norm.
3. Culture of Awareness. Pervasive and innovative (and fun!) education.
4. Culture of Yes. Work through the challenge of saying “yes” in complex situations.
5. Culture of Inevitably. Open discussion of failure scenarios and planning to respond.
6. Culture of Sustainability. Balancing work between operating and improving.

Best practices for your cloud security transformation

Take a risk-informed **NOT** a risk-avoidance approach

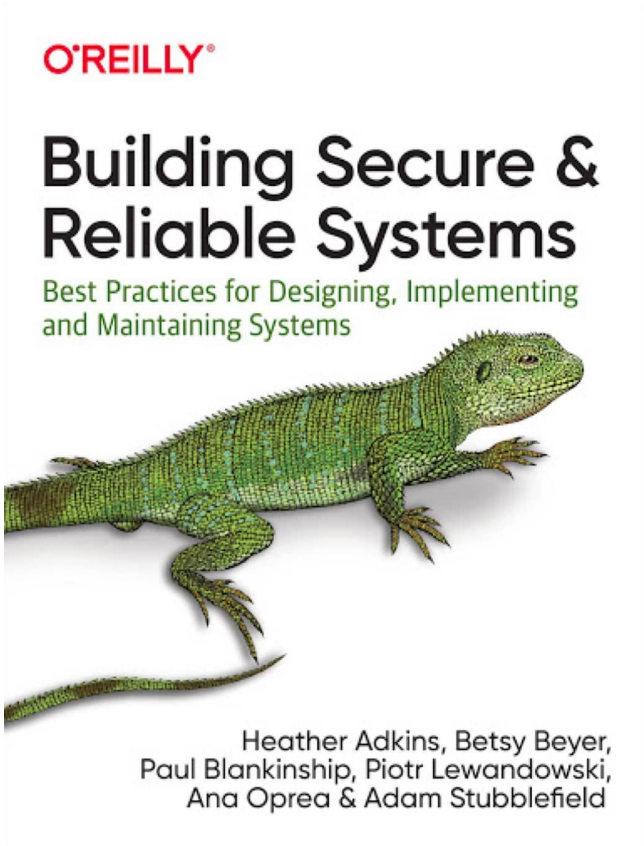
Embrace zero trust and **forget** the perimeter

Prioritize automation to reduce manual workload on security teams

Plan for the training and **reskilling** of your existing security workforce

Demand a strong partnership with cloud providers based on shared understanding of risk and security objectives

More information via Google SRE



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